

REMARKS

The claims appearing in this Application are 1 through 11. Claims 1 through 11 were all rejected under 35 U.S.C. Section 103(a) as being unpatentable over the patent to Emerson U.S. 5898861. Applicant hereby traverses Examiner's rejection and respectfully requests reconsideration of claims 1-11 and the issuance of a Notice of Allowance with respect to thereto.

APPLICANT'S INVENTION

Applicant's invention is defined in independent claims 1, 6 and 10 as a hot-pluggable peripheral input device coupling system for coupling peripheral input devices to a server platform (specifically a blade server having a cluster of server modules [i.e. blades, see the specification page 1, line 13] wherein each of the blades serves the same server function) wherein the hot pluggable peripheral input device coupling system includes a connecting port, a power module, a hot-plug detection module and at least two management control modules, one of which is preset to active mode and the other of which is preset to standby mode to serve as a redundant backup module to the first management control module such that in the event of a failure of the first control module, the second control module will be promptly switched to active mode and wherein the control module that is in the active control mode will respond to the hot-plug enable signal from the hot-plug detection module to perform an initialization procedure for the peripheral input device to allow the server platform to be functionally linked to the peripheral input device. Claims 2, 3, 4 and 5 are each dependent from claim 1 and add additional limitations to the structure set forth in claim 1. In claim 2 the server platform is specifically recited as a blade server. In claim 3 the peripheral input device is specified as a keyboard and a mouse. In claim 4 the input connector is identified as a PS/2 connector. In claim 5 the hot-plug detection module is further specified as an operational amplifier. Claims 7, 8 and 9 are dependent from claim 6 and correspond to claims 3, 4 and 5, dependent from claim 1. While claim 11 is dependent from claim 10 and corresponds to claims 5 and 9.

THE EMERSON PATENT REFERENCE

The examiner on pages 2 through 7 purports to discuss the disclosure provided by Emerson 5898861 utilizing the terminology which Applicant has chosen to define his

invention as set forth in the specification and claims. Applicant respectfully submits that Examiner has mischaracterized Emerson in many respects and respectfully submits that Emerson does not contain many of the specific devices and functions referred to by Examiner in the rejection of claims 1 through 11.

Applicant respectfully submits that Emerson does disclose a computer system achieving hot-pluggable function by coupling keyboards (a mouse is not mentioned) through a keyboard controller and a keyboard switching circuit to a processor and particularly discloses such for a rack-mounted server. Emerson further states the purpose of using two keyboards (see Emerson Col. 1, lines 63 through 67) as

“It is further desirable to allow multiple keyboards to be installed in a system. An example would be the rack-mounted server. It could have a keyboard attachment in back for a permanent keyboard. Alternatively, it would have a front keyboard attachment for a technician to plug and unplug a keyboard as needed. But the ability to use both of these attachments is desirable.”

As is clearly evident in Emerson Col. 2, line 18 through Col. 3, line 10, the Emerson disclosure is directed to a system wherein there is provided a virtual keyboard which is maintained as an internal state set by the 8042 keyboard controller. Thus, when the system is booted without an installed physical keyboard, the virtual keyboard is in place thus making the system believe that a physical keyboard is attached. The system then detects when a physical keyboard is actually installed in the system. When such is done, the virtual keyboard controller sends appropriate scan codes to the newly attached keyboard reflecting the state that the virtual keyboard has captured. When the newly installed physical keyboard is properly configured and stabilized, it has been preinitialized to the virtual keyboard state. Thus, the transition from a virtual keyboard to a physical keyboard is transparent to the system. Conversely, when the physical keyboard is unplugged, the system detects this and the 8042 keyboard controller is switched off of the physical keyboard very quickly before the transistors within the physical keyboard power down. The 8042 keyboard controller is then switched to the virtual keyboard at this point which takes the task of

responding to the scan codes from the 8042 keyboard controller. Thus, spurious characters do not occur when the keyboard is unplugged. The actual device for accomplishing the foregoing is implemented as an application specific integrated circuit (ASIC) which communicates with system management mode firm ware. The interfaces for providing the virtual keyboard controller and virtual keyboard are found within the ASIC while the logic for responding to and providing various scan codes is found within the system management mode software. The processor is periodically interrupted forcing it into system management mode where appropriate scan codes are sent through the virtual keyboard and the virtual keyboard controller to the 8042 keyboard controller and the physical keyboard. In this way the ASIC circuit logic is simplified with the scan code parsing the logic being found in the system management mode firm ware. Applicant respectfully submits that the Emerson disclosure for utilizing the virtual and actual keyboard including the controllers, the detection of the presence or lack of presence of a physical keyboard and the appropriate switching so that the system functions irrespective of the presence of a physical keyboard is totally different from Applicant's hot-pluggable peripheral input device coupling system as defined in the claims above referred to.

In addition to the foregoing, Emerson contains no disclosure of any type of the two management control modules with one of the modules preset to active mode while the second control module is preset to standby mode to serve as a redundant backup module to the first management control module such that in the event of a failure to the first management control module, the second management control module is promptly switched to active mode. Applicant respectfully submits that this alone renders the claims patentably distinguishable from the teachings of the Emerson patent through the utilization of the two management control modules by Applicant. If there is a failure to the active management control module, then the invention of Applicant can help enhance the efficiency (reduce the down time) of the network system by functionally linking the server modules to the externally connected hot-pluggable keyboard and mouse via the redundant backup module. Even if the conventional fault tolerance techniques as taught by Goodrum, et al. are introduced into the Emerson structure as suggested by Examiner, the structure and objective of Applicant's invention would never be achieved without the critical components as

specified by Applicant; namely, the server modules, hot-pluggable devices, and redundant backup module.

In view of the foregoing distinctions, Applicant respectfully submits that claims 1 through 11 presently pending and under consideration define subject matter which is patentable over the primary reference Emerson and Emerson as modified by the secondary reference Goodrum, et al.


Applicant has thoroughly considered each of the remaining references cited by Examiner and respectfully submits that these references taken separately or together or in conjunction with Emerson and Goodrum do not render any of the claims as presently pending and under consideration unpatentable.

In view of the foregoing remarks, Applicant respectfully requests reconsideration of claims 1 through 11 and the issuance of a Notice of Allowance with respect thereto.

As a result of the foregoing amendments to the claims and the foregoing remarks, Applicant respectfully submits that the application is now in condition for allowance and the issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,

Date: September 7, 2005



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